

AMENDMENTS TO THE CLAIMS:

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This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (currently amended) An optoelectronic device comprising:

at least one layer comprised of one of a dielectric and semiconductor material,

first and second electrodes, said electrodes sandwiching said at least one layer, wherein at

least one of the electrodes is a thin semitransparent metal covering and separating said entire layer from air,

said metal electrode having two surfaces, at least one of said surfaces including a periodic microstructure, wherein the structure and positioning of the periodic microstructure is such that surface plasmon (SP) polariton modes are supported mainly at an interface between the layer and the metal electrode and are substantially scattered into propagating light, said propagation being out of the plane of the layer and the metal electrode.

2. (previously presented) The device according to claim 1 wherein the periodic microstructure is selected from one of the following structures:

the metal electrode comprises a grating type structure on each of said two surfaces,

wherein the microstructure of the two metal surfaces are out of phase by substantially π radians;

a grating type structure present only at the interface between the metal electrode and the at least one layer; and

a grating type structure present at the metal electrode/air interface only.

3. (previously presented) The device according to claim 2 wherein the periodic microstructure is said grating type structure present at the metal electrode/air interface further including an encapsulating layer on the metal electrode.

4. (previously presented) The device according to claim 1 wherein the periodic microstructures are one of a periodic sequence of valleys and hills and a periodic sequence of grooves.

5. (cancelled).

6. (previously presented) The device according to claim 1 wherein the periodic microstructure is periodic in more than one direction on the surface.

7. (previously presented) The device according to claim 1 wherein the periodic microstructures sub-wavelength.

8. (previously presented) The device according to claim 1 wherein the metal comprising electrode is an aluminum cathode.

9. (previously presented) The device according to claim 1 wherein the device is chosen from a light emitting diode, a photovoltaic cell or a photodiode.

10. (previously presented) The device according to claim 9 wherein the light emitting diode is an organic light emitting diode.

11. (currently amended) An optoelectronic device comprising:

at least one layer comprised of one of a dielectric and semiconductor material,

first and second electrodes, said electrodes sandwiching said at least one layer, wherein at

least one of the electrodes is a thin semitransparent metal covering said entire layer,

said metal electrode having two surfaces, said metal electrode comprises a grating type structure on each of said two surfaces, wherein the microstructure of the two metal surfaces are out of phase by substantially π radians and wherein the structure and positioning of the periodic microstructure is such that surface plasmon (SP) polariton modes are supported mainly at an interface between the layer and the metal electrode and are substantially scattered into propagating light, said propagation being out of the plane of the layer and the metal electrode.

12. (currently amended) An optoelectronic device comprising:

at least one layer comprised of one of a dielectric and semiconductor material,

first and second electrodes, said electrodes sandwiching said at least one layer, wherein at

least one of the electrodes is a thin semitransparent metal covering said entire layer,

said metal electrode having two surfaces, a grating type periodic microstructure is present only at the interface between the metal electrode and the at least one layer, wherein the structure and positioning of the periodic microstructure is such that surface plasmon (SP) polariton modes are supported mainly at an interface between the layer and the metal electrode and are

substantially scattered into propagating light, said propagation being out of the plane of the layer and the metal electrode.

13. (currently amended) An optoelectronic device comprising:

at least one layer comprised of one of a dielectric and semiconductor material,

first and second electrodes, said electrodes sandwiching said at least one layer, wherein at

least one of the electrodes is a thin semitransparent metal covering said entire layer,

said metal electrode having two surfaces, a periodic microstructure is present at the metal electrode/air interface only and wherein the structure and positioning of the periodic microstructure is such that surface plasmon (SP) polariton modes are supported mainly at an interface between the layer and the metal electrode and are substantially scattered into propagating light, said propagation being out of the plane of the layer and the metal electrode.

14. (currently amended) An optoelectronic device comprising:

at least one layer comprised of one of a dielectric and semiconductor material,

first and second electrodes, said electrodes sandwiching said at least one layer, wherein at

least one of the electrodes is a thin semitransparent metal covering said entire layer,

said metal electrode having two surfaces, said device having at least one surface including a periodic microstructure, wherein the structure and positioning of the periodic microstructure is such that surface plasmon (SP) polariton modes are supported mainly at an interface between the layer and the metal electrode and are substantially scattered into propagating light, said propagation being out of the plane of the layer and the metal electrode.

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15. (previously presented) The device according to claim 14, wherein the periodic microstructure is on one of the two surfaces of said metal electrode.

16. (previously presented) the device according to claim 14, wherein said at least one surface including a periodic microstructure is a surface of a dielectric layer located on one of said metal electrode surfaces.